

The listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): A gas delivery metering tube for delivering a gas, comprising:

~~an at least one innermost and outermost axially aligned, elongated tube, nested tubes having an effective annular space formed between said at least one innermost and outermost nested tubes, said innermost tube tubes each having two ends, said innermost tube being attached to a gas supply at one end and capped at the other end;~~ one or more arrays of orifices being formed in each of said at least one innermost and outermost nested tubes tube and extending along the substantial length of each of said innermost tube tubes; and

an outermost elongated tube, said outermost tube having two ends, one or more arrays of orifices being formed in said outermost tube and extending along the substantial length of said outermost tube, said outermost tube being disposed such that it is axially aligned with said innermost tube and such that an effective annular space is formed between said at least one innermost and outermost nested tubes;

wherein the one or more arrays of orifices formed in said innermost tube establish a substantially uniform backing pressure along substantially the length of the innermost tube, thereby promoting substantially uniform delivery of the gas out of the orifices in the outermost tube and along substantially the length of the outermost tube over a range of operating conditions.

Claim 2. (Original): The gas delivery metering tube of claim 1 wherein the effective annular space has an effective diameter D_{eff} and the innermost tube has an inner diameter D_{in} , and D_{eff} and D_{in} are within a factor of three of each other.

Claim 3. (Original): The gas delivery metering tube of claim 2 wherein D_{eff} is approximately equal to D_{in} .

Claim 4. (Original): The gas delivery metering tube of claim 1 wherein a ratio of the surface area of the outermost tube to the total cross sectional area of the orifices formed in said outermost tube is equal to or greater than approximately 10.

Claim 5. (Original): The gas delivery metering tube of claim 4 wherein said ratio is greater than 100.

Claim 6. (Original): The gas delivery metering tube of claim 1 wherein said metering tube is used in a chemical vapor deposition system.

Claim 7. (Cancelled)

Claim 8. (Original): The gas delivery metering tube of claim 1 wherein the innermost tube has a length and a diameter and the ratio of the length to the diameter is in the range of approximately less than 70.

Claim 9. (Original): The gas delivery metering tube of claim 1 wherein the nested tubes are cylindrical.

Claim 10. (Original): The gas delivery metering tube of claim 1 wherein the nested tubes are rectangular.

Claim 11. (Original): In combination, the gas delivery metering tube of claim 1 and at least one injector assembly having at least one port for receiving said gas delivery metering tube.

Claim 12. (Original): In combination, the gas delivery metering tube of claim 1 and at least one shield assembly having at least one plenum for receiving said gas delivery metering tube.

Claim 13. (Previously Amended): The gas delivery metering tube of claim 1 wherein the innermost tube has the following properties:

$$L/D < 70$$

$$D/d \approx \geq 10$$

$$NA_{\text{port}}/A_{\text{tube}} \approx < 1$$

where L is the length and D is the diameter of the innermost tube, d is the diameter of one orifice in said array of orifices in said innermost tube, N is the number of orifices in the innermost tube, A_{port} is the cross sectional area of each of said orifices, and A_{tube} is the area of said innermost tube; and

the outermost tube has the following properties:

$$D_{\text{eff}} \text{ and } D_{\text{in}} \text{ are within a factor of three of each other}$$

$$\text{SurfaceArea}_{\text{outer}}/NA_{\text{outer}} \approx 10 \text{ or more}$$

where D_{eff} is the effective diameter of the effective annular space, $\text{SurfaceArea}_{\text{outer}}$ is the surface area of the outermost tube, NA_{outer} is the total cross sectional area of all of the orifices in the outermost tube, and D_{in} is the inner diameter of the innermost tube.

Claim 14. (Original): The gas delivery metering tube of claim 13 wherein D_{eff} is approximately equal to D_{in} .

Claim 15. (Original): In combination, the gas delivery metering tube of claim 13 and at least one injector assembly having at least one port for receiving said gas delivery metering tube.

Claim 16. (Original): In combination, the gas delivery metering tube of claim 13 and at least one shield assembly having at least one plenum for receiving said gas delivery metering tube.